



*O'BRIEN et al.*

*Application No. 09/043,406*

*November 20, 2006*

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.-52. (canceled)

53. (currently amended) ~~A service provision system for use in distributed processing environments, said system comprising:~~ A distributed computer programmed to provide a multi-agent system having a plurality of interoperating agents, each agent comprising:

an input for receiving a service request for a composite service;

processing means for processing the composite service request;

negotiation means for use in establishing conditions applicable to provision, by one or more other agents in said multi-agent system, of one or more component processes involved in provision of the composite service, said negotiation means being adapted to assemble said conditions proactively by negotiation prior to receipt of said composite service request;

an up-datable data store;

means to access said up-datable data store for storing said conditions when established and assembled; and

an output for providing a response to the composite service request, said response comprising an indication of availability of the requested composite service;

wherein the processing means is adapted to process a composite service request by accessing one or more of the previously established conditions, for supply of component processes by said one or more other agents, in the data store, processing the request using the one or more established conditions and producing said response.

54. (currently amended) A ~~service provision system~~ distributed computer as in claim 53 wherein one or more of said established conditions has an associated expiry time after which it is no longer applicable.

55. (currently amended) A ~~service provision system~~ distributed computer as in claim 54 wherein the processing means is adapted to detect an expired or undefined condition in the data store, which condition is applicable to a component process ~~for used~~ in the provision of a the requested composite service, and to trigger the negotiation means to establish a substitute condition.

56. (currently amended) A ~~service provision system~~ distributed computer as in claim 55 further comprising:

means to access said data store for storing data related to services offered by the ~~system agent~~ and to one or more entities which have an interest in receiving information relating to one or more of said services, together with means to transmit information based on said data related to services to the one or more entities which have an interest.

57. (currently amended) ~~A system-distributed computer~~ as in claim 53 which further comprises initiation means to initiate one or more component processes in provision of a requested composite service.

58.-60. (canceled)

61. (currently amended) ~~A service provision method for use in distributed processing environments, said method comprising:~~ A method of operating a distributed computer to provide a multi-agent system, said method involving each agent:

establishing conditions applicable to provision, by one or more other agents in said multi-agent system, of one or more component processes in a composite service, proactively by negotiation prior to receipt of ~~said service request~~ a request for said composite service;

accessing an up-datable data store and storing said component process supply conditions once established;

subsequently receiving a request for said composite service;

processing said composite service request by:

a) accessing one or more of said previously established conditions, for component process supply in the data store; and

b) providing a response to the composite service request, said response comprising an indication of availability of the requested composite service dependent upon whether said one or more established conditions for component process supply is met.

62. (currently amended) A ~~service provision~~ method according to claim 61 wherein one or more of said established conditions for the component process supply stored in said data store is applicable until advent of an expiry time associated with said one or more conditions.

63. (currently amended) A ~~service provision~~ method according to claim 62 ~~wherein~~ further comprising the step, responsive to receipt of said composite service request, of finding whether any conditions for provision of component processes in said service are ~~extant~~ expired or undefined and substituting a substitute condition in the event that ~~no~~ any such conditions ~~are~~ is found.

64. (currently amended) A ~~service provision~~ method according to claim 61 wherein said method further comprises the step of scheduling provision of said one or more component processes, said step being carried out after receipt of said request for said composite service.

65. (currently amended) A ~~service provision~~ method according to claim 64 wherein said method further comprises the step, responsive to a failure to schedule one or more component processes, of carrying out one of the following steps:

- i) re-schedule the component process;
- ii) transmit a message to an entity which requested the composite service indicating that the composite service can only be provided under conditions different to ~~said~~ previously established conditions for supply of said composite service;

- iii) re-assign the composite service to another service provider; or
- iv) indicate to an entity which requested the composite service that the requested composite service cannot be provided.

66. (currently amended) A method according to claim 61 further comprising the step of identifying component processes for use in provisioning the requested composite service.

67. (currently amended) A method according to claim 66 which further comprises initiating one or more of said component processes identified for use in the requested composite service.

68.-76. (canceled)